Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

entered into ISTAR 7/20/09 HW QAQC 7/20/09 DF New Pro QAQC 8/24/09 DF

Company Information

Company Name:	**Apache Corporation**
Gas STAR Contact:	**C.J. Doiron**
Title	**Sr. Staff GHG Specialist**
Address:	**2000 Post Oak Blvd.**
	Suite 100
City:	**Houston**
State:	**TX**
Zip:	**77056-4400**
Phone:	**(713) 296-6589**
Fax:	**(713) 296-6917**
E-mail:	**cj.doiron@apachecorp.com**

Company Information Updated: **No**

Activities Reported

BMP1: No BMP2: No BMP3: Yes

Total Methane Emission Reductions Reported This Year: **208,852**

Previous Years' Activities Reported: **No**

Period Covered by Report

From: **01/01/2008** To: **12/31/2008**

☑ I hereby certify the accuracy of the data contained in this report.

Additional Comments

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Central Permian TX, NM

B. Description of PRO

Please specify the technology or practice that was implemented:

Convert gas pneumatic controls to instrument air (10 years)

Please describe how your company implemented this PRO:

Several Districts in the Central Region installed instrument air systems to replace field gas at select field locations.

C. Level of Implementation

Other: Pneumatic devices and controllers converted to instrument air from field gas.

D. Methane Emissions Reduction

Methane Emissions Reduction: **55,845 Mcf/year**

Basis for the emissions reduction estimate: **Other**

Gas reduction estimates from field personnel based on number and types of devices and controllers converted to air.

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

One-year ✓ Multi-year

If Multi-year:

✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

F. Cost Summary

Estimated cost of implementing the PRO (including equipment and labor): **$ 62,000**

G. Total Value of Gas Saved

Value of Gas Saved: **$ 251,303**
$ / Mcf used: **$ 4.50**

H. Planned Future Activities

To what extent do you expect to implement this PRO next year?: **Expect to convert approximately 200 more devices in 2009.**

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

Additional Comments

Selected fields in the Central Region's Permian Central, West and South Districts were converted.

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Indian Basin, NM

B. Description of PRO

Please specify the technology or practice that was implemented:

Flare reduction program

Please describe how your company implemented this PRO:

Shut off emergency flare system and capture gas from compressor shut-downs.

C. Level of Implementation

Number of units installed: 1 units

D. Methane Emissions Reduction

Methane Emissions Reduction: **59,340 Mcf/year**

Basis for the emissions reduction estimate: **Other**

Calculated by field personnel based on historical compressor blowdown information.

E. Are these emissions reductions a one-year reduction or a multi-year reduction? — one year duration per PRO guidance - enter as 1 year in iSTAR - How to inform IM

One-year ✓ Multi-year

If Multi-year:

✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 5,000**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 267,030**
$ / Mcf used: **$ 4.50**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?: _____

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

Additional Comments

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Central Permian, TX

B. Description of PRO

Please specify the technology or practice that was implemented:

Increase compression capacity to reduce venting/flaring

Please describe how your company implemented this PRO:

Laid additional flow lines on 7 leases to collect previously vented gas and tie into central compressor system.

C. Level of Implementation

Other: Low pressure gas previously vented is now collected and routed to central compressor for sales

D. Methane Emissions Reduction

Methane Emissions Reduction: **28,287 Mcf/year**

Basis for the emissions reduction estimate: **Other**

Estimated volumes by field personnel

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

One-year ✓ Multi-year

If Multi-year:

✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

- one yr durations as per PRO guidesheet - entered as 1 yr into iSTAR

How to inform IM

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 33,500**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 127,292**
$ / Mcf used: **$ 4.50**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?: **As additional candidates are Identified, projects will be evaluated.**

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

Additional Comments

Previously vented low pressure gas is now sold into system, reducing operating costs, increasing revenues and reducing GHGs.

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

West Permian, NM

B. Description of PRO

Please specify the technology or practice that was implemented:

Install electric motors (10 years)

Please describe how your company implemented this PRO:

Electrified pumping units to replace field gas fired engines. Replaced 2-80HP gas engines with 2-30HP electric motors.

C. Level of Implementation
Number of units installed: 2 units

D. Methane Emissions Reduction
Methane Emissions Reduction: **2,190 Mcf/year**

Basis for the emissions reduction estimate: **Actual field measurement**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

One-year ✓ Multi-year

If Multi-year:

✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 117,000**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 9,855**
$ / Mcf used: **$ 4.50**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?: **Additional candidate locations will be identified in 2009.**

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

Additional Comments

Long payout period for electrification, but fields are very long-lived. Electrification reduced maintenance costs and reduced GHG emissions.

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Elk City District, TX

B. Description of PRO

Please specify the technology or practice that was implemented:

Install electric motors (10 years)

Please describe how your company implemented this PRO:

Installed electric power lines to Stiles Ranch Amine plant to replace generators fired by field gas.

C. Level of Implementation
Number of units installed: 1 units

D. Methane Emissions Reduction
Methane Emissions Reduction: **8,760 Mcf/year**

Basis for the emissions reduction estimate: **Actual field measurement**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

One-year ✓ Multi-year

If Multi-year:

✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 134,100**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 39,420**
$ / Mcf used: **$ 4.50**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?: **Continue evaluating opportunities to replace fuel gas fired generation with grid electric power.**

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

Additional Comments

Electrifiction reduced maintenance costs, fuel costs and GHG emissions.

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

Central, North Permian TX

B. Description of PRO

Please specify the technology or practice that was implemented:

Installing VRUs on crude oil storage tanks (10 years)

Please describe how your company implemented this PRO:

2 new VRUs installed and 2 rebuilt VRUs placed in service to recover flash gas emissions from crude/condensate storage tanks

C. Level of Implementation

D. Methane Emissions Reduction

Methane Emissions Reduction: **20,850 Mcf/year**

Basis for the emissions reduction estimate: **Calculation using manufacturer specifications**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

One-year ✓ Multi-year

If Multi-year:

✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 60,200**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 93,825**
$ / Mcf used: **$ 4.50**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?: **Continue to evaluate opportunities to install VRUs where it makes economic sense.**

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

Additional Comments

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

North Permian, TX

B. Description of PRO

Please specify the technology or practice that was implemented:

Tank replacement

New PRO - Replace leaking aboveground tanks

Please describe how your company implemented this PRO:

Evaluated leases acquired from other operators for opportunities to increase gas capture. Old tanks had multiple leaks allowing air into system and raising O2 levels beyond sales specification. Tank replacement facilitates reducing O2 content and reduces venting/flaring of off-spec gas.

C. Level of Implementation

Other: One-time replacement of 11 leaking tanks, but continued capture of gas that was previously vented or flared.

D. Methane Emissions Reduction

Methane Emissions Reduction: **28,105 Mcf/year**

Basis for the emissions reduction estimate: **Actual field measurement**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

One-year ✓ Multi-year 10 Yr

If Multi-year:

✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 642,000**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 126,473**
$ / Mcf used: **$ 4.50**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?: **Continue to evaluate equipment acquired from other operators for improvements.**

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

Additional Comments

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

BMP3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Facility/location identifier information:

North Permian, TX

B. Description of PRO

- PRO: Recover gas from separators

Please specify the technology or practice that was implemented:

Tie in Free Water Knock-out and send production to heater treater

Please describe how your company implemented this PRO:

Removed gun barrels from service, tied in free water knock out and route all production to heater treater. All gas is diverted to gas sales lines.

C. Level of Implementation

D. Methane Emissions Reduction

Methane Emissions Reduction: **5,475 Mcf/year**

Basis for the emissions reduction estimate: **Actual field measurement**

E. Are these emissions reductions a one-year reduction or a multi-year reduction?

- 1 yr duration as per PRO guidesheet - entered 1 yr in iSTAR - how to inform IM

One-year ✓ Multi-year

If Multi-year:

✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

F. Cost Summary
Estimated cost of implementing the PRO (including equipment and labor): **$ 223,000**

G. Total Value of Gas Saved
Value of Gas Saved: **$ 24,638**
$ / Mcf used: **$ 4.50**

H. Planned Future Activities
To what extent do you expect to implement this PRO next year?: **Payout of project is long at current gas prices. Reduced maintenance and operating costs improve economics. Reduce GHG emissions.**

Previous Years' Activities

Year	Frequency of practice/activity or # of Installations	Total Cost * ($)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved ($)

* Total cost of practice/activity (including equipment and labor)

Additional Comments

Annual Report 2008

Production Sector

OMB Control No. 2060-0328
Expires 07/31/2011

Additional Accomplishments